

LEST WE FORGET: UNIT III: CELL STRUCTURE AND FUNCTIONS

1. Collagen has a triple helix structure.
2. Anything less than a complete structure of a cell does not ensure independent living.
3. Centrosome is not the only non-membrane bound organelle in animal cells; Ribosomes are non-membrane bound as well.
4. The bacterial cell wall prevents the bacterium from bursting or collapsing.
5. The ribosomes of a polysome translate the same protein.
6. The quasi-fluid nature of lipid enables lateral movement of proteins within the overall bi-layer. This ability to move within the membrane is measured as its fluidity. (In reference to cell membrane)
7. The secondary cell wall in the plant cell is formed on the inner (towards membrane) side of the cell.
8. Rough Endoplasmic Reticulum is extensive and continuous with the outer membrane of the nucleus.
9. *Cis* and *trans* face of Golgi apparatus are entirely different, but inter-connected.
10. Mitochondria, unless specifically stained, are not easily visible under the microscope.
11. Both cilium and flagellum emerge from centriole-like structure called basal body.
12. The arrangement of microtubules in cilium and flagellum is 9+2; The arrangement of microtubules in basal body and centriole is 9+0.
13. Nucleolus is not a membrane-bound structure.
14. A few chromosomes have non-staining secondary constrictions at a constant location.
15. Oxygen is most common element in human body and in earth's crust. (% weight)
16. Alpha-amino acids are substituted methane.
17. Cytosine is a base, cytidine is a nucleoside and, cytidylic acid is a nucleotide.
18. After water, proteins form the highest percent of the total cellular mass. (Average composition of cells)

19. A protein is never a homopolymer.
20. Inulin, and not insulin, is a polymer of fructose.
21. In proteins, only right-handed helices are observed.
22. The rate of an enzyme catalysed reaction nearly doubles or decreases by half for every 10 degree change in temperature in either direction.
23. The formation of enzyme-substrate complex is obligatory but a transient phenomenon.
24. The substrate has to go through a transition state in both exothermic and endothermic reactions.
25. Catalytic activity is lost when the co-factor is removed from the enzyme.
26. If the chromosome number and DNA content in a cell at G_1 phase is $2n$ and $2C$ respectively, the corresponding numbers at the end of the S-phase will be $2n$ and $4C$.
27. One of the reasons a cell divides is to restore its nucleo-cytoplasmic ratio.
28. In meiosis, a single round of DNA replication is followed by two sequential cycles of nuclear and cell division where chromosome number is reduced to half in the first and DNA gets reduced in both first and second divisions.
29. Centromere does not divide during anaphase I.
30. There is no DNA replication during interkinesis.
31. Meiosis enables conservation of chromosome number across generations in sexually reproducing organisms because it results in reduction of chromosome number by half.
- *32. Both mitochondria and chloroplasts can transduce energy; Both mitochondria and chloroplasts are considered endosymbionts in eukaryotic cells.
- *33. Competitive enzyme inhibition can often be overcome by increasing the concentration of the substrate.
- *34. The unique properties of each amino acid are determined by its particular R group.
- *35. Peroxisomes and glyoxysomes are both classified as microbodies.